Enacting a new approach to scenario analysis: the potential of a pragmatist account

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Introduction

There are a number of competing schools of thought regarding scenario analysis. Of these, the intuitive logics (IL) method has become increasingly dominant since the 1990s (Huss and Honton, 1987). IL is, though, beginning to attract some serious criticism (for example, Tapio and Hietanen, 2002; Walton, 2008; Wilkinson, 2009; Wilkinson et al., 2013). These critics are generating a broad range of interesting proposals to enhance scenario planning and point this discipline in a new direction. For example, Wilkinson et al (2013) couple scenario analysis with complexity theory to produce a 'deeper reframing' of wicked issues that scenarios might tackle. Walton advocates a classical pragmatist response (Chermack and Walton, 2006) and has embraced abductive reasoning (as co-author of Gold et al, 2011, for instance) as his chosen pragmatist solution. This article takes a different approach to scenario analysis. It shares with Walton an enthusiasm for pragmatism as the architecture of a more effective response. It uses, though, a specific variety of (networked) pragmatist thinking to explore how scenarios are produced and used.

The first principle of a pragmatist approach is, of course, a focus on acts, not thoughts or emotions. It is based on the proposition that knowing something is closely related to the doing that is associated with that thing (Blackler, 1995). Those that work with scenarios (and are worked by them, in a performative relationship) will know their potential and limits as only practitioners can. However, this philosophical shift towards action alone will not suffice to deliver on the promise that both Walton and we perceive. Other significant propositions from a specifically network pragmatist viewpoint, which is based on insights generated from within actor network theory (Callon, 1991, 1986; Latour, 1999, 1996, 1992, 1987; Law, 2002), also merit consideration. There is, for instance, actor network's quite specific

ontological reading. In that reading, things like scenarios are thought to be produced by wider sets of (sociotechnical) relations. Neither individual people, ideas nor indeed scenarios stand alone. It is only when scenarios are connected to both people and things that their pragmatist existence is fully manifest.

Networking is thus an essential quality of contemporary pragmatist ontology (Alcadipani and Hussard, 2010) and the relations within that network are constitutive. Relations can align those scenarios with needed people and things and they can just about hold the scenarios in a useful place to make their (always transient) identity momentarily clearer. Nevertheless, this holding in place, or alignment is hard won. Actor network theorists also emphasise that a wide range of things are defined in these relational terms. This swathe of non-human things then has a high degree of causal efficacy. The implication is that change can be stimulated from many quarters, including by these non-human things, in what are inherently unstable situations. This perceived frailty of situations requires analytical sensitivity to unexpected events arising from unstable network relations and often led by unnoticed objects.

These propositions form the core of what is itself an unstable theoretical order, described with many different names that lead to differences in emphasis. The idea of the actor network is then 'not a "theory"', but rather, 'an adaptable, open repository', in the words of one of its leading theorists (Mol, 2010, p. 265). It is in this spirit that the following argument adds two important caveats to received versions of this body of theory. First, there is the condition that may be termed partial enrolment. Whereas Latour's theories rely on the proposition that all of those involved in an area of concern give of themselves to the full, this assumption is relaxed

here. At least some objects - some aspects to scenarios - may reserve their positions. This idea builds on Harman's (2009) view that objects can withdraw from a situation, based on their residual essence. Second, not all members of an organising network are equal. The symmetry between humans and non-human objects is never complete (Newton, 1998), and unintended orderings of people and things can result. With these caveats, the present argument is framed in what is more generally known as an object-oriented philosophy. Actor network theory can be seen as a part of that wider body of thinking.

Using this approach, certain benefits are claimed over current readings of scenarios. First, when considering multiple scenarios, *all* of the practical effects of *all* of the scenarios are considered. To anticipate our argument, some scenarios can be relegated to an organisational background - even to the minds and feelings of certain individuals - so that they might be reborn when organisational conditions become more favourable to them. Second, we assert that the life of scenarios is often crucially defined by their movement in and out of a pragmatist domain and that the cognitions, emotions, communicative norms or cathectic appeals of those involved will be seminal in instigating and negotiating these moves. Third, even when considered as an interlocking and unified set of alternatives (for cogitation purposes), the terms under which scenarios are grouped (and by whom) are highly significant. This process (called 'blackboxing') prioritises certain favoured organisational practices and subordinates others so as to hide and limit choice. There is what is termed micro-politics (Wastell, 2006) at work in these selections. Conventional approaches largely omit the social and technical relations that must obtain if a set of scenarios is to hold itself together, resist challenge and remain cohesive as time passes.

The usual temptation in the kind of experimental theorising pursued here is to claim unfeasibly broad applicability and thus to engage in theoretical encroachment – to go too far as advocate. We try to avoid this by acknowledging the severe limits in the present argument and recognising the continuing importance of the many alternative philosophical accounts to be found in research into scenarios. Neither do we wish to understate, though. Research into scenarios and their effects concentrates far too much, we believe, on what people think about scenarios. We assert, along with authors like Walton, that it is the work they do to change practices that should be centre-stage. In pursuit of this view, we focus not on the content of the scenarios, nor the decisions they promote. Instead, we concentrate on the changing relations that handling scenarios can promote in the present and the specific organising tendencies they invoke.

The article is structured as follows. It opens with a brief summary of the modest but growing calls for the development of pragmatist readings of scenario analysis. It then makes some short observations on the basic structure and governing relations, or ontology of scenarios when considered in and of themselves. The ensuing analysis evaluates scenarios in the places where they do generative work – in networks. A model of multiple scenarios and their possible fates is outlined. Reflections on that model suggest a further ontology, namely the set of all scenarios. This idea is already familiar in conventional readings of scenario analysis, but it is rethought here. The discussion then recognises that other pragmatist traditions have a significant role to play in developing the present understanding of scenarios. There are important object transfers that result from a withdrawal of scenarios from networked life and into realms of individual action. These are briefly evaluated. The argument concludes by considering the limitations to a pragmatist approach to scenarios, leaving open reconciliation

with the IL orthodoxy, but on renewed terms.

Scenario Analysis - the Orthodox Approach

This section sets out some of the main criticisms of the currently dominant IL approach (van der Heijden et al., 2002) to scenario analysis. This IL approach forms the starting point for many of the 'how to' books that have been written for students and practitioners of scenarios, as well as the teaching of scenario analysis (for example, van der Heijden et al., 2002; van der Heijden, 2005; Ringland, 2006; Wright and Cairns, 2011). Applied prescriptively in the form of an eight-step, essentially linear method, the IL approach structures a strategic conversation (van der Heijden, 2005). This involves a team, usually consisting of a combination of internal stakeholders and external experts essentially exchanging ideas. The outcome is a set of plausible futures, typically consolidated as three or four discrete scenarios (Wright and Cairns, 2011). These may be presented in an integrated report. Both the process and report can then be seen as a type of public display, part of a search for organisational legitimacy and the acquiring of appropriate symbols (Wilkinson and Kupers, 2014). A primary purpose of the scenarios is to set boundaries or otherwise constrain participants' mental models, which will have previously been expanded thanks to a framed dialogue about the possibility of multiple futures (Schwartz, 1998). Therefore, IL scenario analysis is essentially a structured, but relatively non-hierarchical team learning exercise that first expands, then contracts the imaginary worlds under consideration. Managing an oscillating boundary is a crucial skill here.

The reality of scenario analysis within organisations often diverges from this ideal-theoretical account. Wilkinson (2009) cautions that there is a high degree of secrecy surrounding many scenario processes and outcomes. Indeed, while the exercise can function as a learning experience for participants and its stated aim is to challenge extant world views, the manner in which the scenarios are developed and used is often duplicitous and certainly less than wholly candid. There is frequently a degree of micro-politics (Wastell, 2006) underpinning this. Organisations, their leaders and stakeholders adapt approaches to suit their own needs, or sometimes do not themselves produce scenarios at all. Rather, they may buy them in from a number of consultancies that offer these off-the-shelf services. In such circumstances, scenario analysis may not be the product of a team exercise or strategic conversation at all. Instead, it often results from the procurement decisions of the designated employees and requires only the often passive consumption of a proprietary product. There is then often little, if any, dialogue about the contents of the traded scenarios. These can become a part of broader 'solutions selling' exercises, rather than a search for useful and heartfelt views on futures. In addition, such off-the-shelf products may reject the idea of multiple scenarios in favour of single scenarios. This singular interpretation of the future contradicts a basic principle of the existing academic literature on scenario analysis. A scenario should never become a prediction or forecast (Wright and Cairns, 2011). However, because of the commercial pressures that proprietary producers of such off-the-shelf scenarios face, forecasting is exactly what such work ultimately becomes.

Academics might judge these practices to violate acceptable practice. Yet, they fulfil a similar purpose to IL scenario analysis: to facilitate management cognition. Such cognition still functions even where the end user of the output was not in any way involved in its production. Moreover, the output of a scenario analysis exercise is not necessarily confined to the written report and other materials produced both during and after such an exercise. It is

possible – indeed potentially commonplace – for the act of reading a scenario analysis report to generate other scenarios in the mind of the reader. This process challenges and reshapes mental models (Schwartz, 1998), but outside of the formal structures and methods of a planned strategic conversation. This would mean that a single predictive scenario as a product of scenario analysis could be put to similar uses as a plural scenario set generated by a strategic conversation. They both tend to spill over boundaries, to multiply mental models, and are designed so to do. The practice challenges longstanding theories of scenario production and consumption. The idea that these traded scenarios are less 'valid' than a set of multiple scenarios resulting from a strategic conversation is also weak at a deeper level. It is idealist, in the sense that proprietary practice that is based on scenario outsourcing does not comply with (academically) accepted models - and is found wanting in consequence.

Practice therefore challenges the dominant theoretical orthodoxy at many levels, making scenario analysis a real-world exercise in pragmatism (Wilkinson et al., 2013). Practitioners are already changing the way that things are to be done. The iterations that ought to underpin a logic of intuition are often disregarded, the order of things changed. This situation demands better theory, rather than a change in reality itself. This article offers one possible new reading of scenario analysis that picks up on this practical challenge. It seeks to do this through an experimental inquiry rooted in the exploratory spirit of classical pragmatist theory. Other researchers in this field are beginning to move in that direction, too. The following section provides a brief overview of this small but growing body of research into pragmatist approaches to scenarios, their planning and implementation.

Pragmatism and Scenario Analysis – Epistemological Debates

Walton's (2008) noted criticisms of the existing ways of doing scenarios contain an arresting observation. He notes that scenarios as they are deployed in the world should, but often do not act to 'disturb present power relations' (p. 154) in the organisation. Such an interpretation underscores the role of scenarios in micro-political action. The implication of his comment must be that scenario analysis precisely does not disturb, but rather affirms the relations of power in the organisation.

There are many points at which pragmatist thinking surfaces in research into scenarios. For instance, a number of authors assert that scenarios can function to bring together people from differing backgrounds, to forge 'common understanding' (Börjeson et al, 2006, p. 728). Forging understanding is a cognitive assertion, but the inferred process connects with a wider object-related body of contemporary pragmatist thinking. Scenarios as non-human things can somehow bring together, or convene numerous human actors. Bringing people and things together, or indeed, keeping them outside of an arena of decision making, is also the concern of a now large body of research into the operations of so-called boundary objects (Jarzabkowski and Spee, 2009; Carlile, 2002; Star and Griesemer, 1989). Scenarios may be considered in this way, too, as objects with a power either to include or exclude.

Such work is indicative of a more general concern with non-human objects that is sometimes called the material turn. This material turn has encouraged authors like Walton in their recent return to classical pragmatist thinking. It also cautions in its numerous explorations of non-human action that courses of action can be generated that people did not anticipate. The idea of relational drift (Andon et al, 2007), for instance, provides an early caution that the pragmatic world can generate unintended processes wily enough to take scenario planners by

surprise. Pragmatism continues to be a rare philosophical pursuit among advocates of scenario analysis, though, notwithstanding its wider appeal, and Walton's challenge remains largely unanswered.

Moreover, a general commitment to pragmatism is insufficient, for there are many distinct strands to pragmatist thought. Wortelboer and Bischof (2012) illustrate this. They refer to 'pragmatism' in their evaluation of scenario impacts in the Netherlands. Indeed, they recognise the importance of networked practice in applying pragmatism, but they go no further. In a common elision, they use pragmatic as a synonym for practice. Walton's (2008) consideration of pragmatist theory is more nuanced, but he ends with explicit references to his preferred interpretation, namely, the classic pragmatist thinking of Rorty and Dewey. Tapio and Hietanen (2002) undertake a meta-evaluation of general organising principles for scenario analysis. They again highlight Rorty in their reflections on the place of 'relativistic pragmatism' in scenario analysis. They also register a second strand of pragmatist thought (so-called critical pragmatism) in which bad choices are forbidden by normative (Habermasian) rules. A general commitment to pragmatism in scenario research is, then, too unspecific to support the detailed analysis that we believe is needed. These modest philosophical openings merit, though, a more sustained research effort and that is the purpose of the present contribution. We begin that account by probing the ontological qualities and unstable identities of the people and non-human things likely to be involved in the design and implementation of scenarios.

Scenario Ontologies and Involved Networks

The present argument is based on a quite specific interpretation of pragmatism, which originates in actor network theory and is here styled network pragmatism. Such thinking has exerted a growing influence in strategic management theory (for example, Denis et al, 2007; Bryson et al, 2009; Spender, 1996), to which body of theory scenario analysis is closely related. Yet, network pragmatism has not been applied directly to scenario analysis. That is the task pursued here.

The basic ontological entity to be examined is the network. This is comprised of human and non-human subjects, both of which have the ability to act with purpose and exert broadly equivalent force. There are certain humans whose general roles within that network may be discerned and directly translated from existing research into scenario production. There is the facilitator (in group-based scenario analysis exercises) or analyst (in individual scenario development exercises). These roles are often uncritically defined. Thus, Walton (2008) chooses to see the facilitator's role as being to 'help top management' in designing futured plans and many analysts would assuredly welcome such a neutral and technical role definition. More will be said on this role below, as we seek to cast the actors in a more critical light. For now, we observe merely that this role should be defined relationally as it regards others (those top managers). The facilitator will then have a host of allies (peers, sympathisers, or acolytes within client enterprises) that together form a professional network. There will also be networks of market know-how – database and research and intelligence managers, working in contractors and specialist consultancies - whose resources may be called upon. In the network pragmatist view, this ontology goes beyond humans to include specialist datasets and dedicated or proprietary software to support scenario productions.

These various roles are typically of élite status. They concern those individuals and networks

that either instigate and fashion the scenarios or insist that they are used in practice. They concern, in short, the ontology of a dominant network. There will equally be those who participate in scenario work as subalterns and who will typically be charged with making a scenario shape action over a subsequent implementation period. Line managers play a contested role in this account. Tenaglia and Noonan (1992) argue that they should be included as architects – thus forming a part of the dominant network – but it is clear that they are in reality cast in a subordinate role. Line managers will have their plant, systems, their colleagues and contacts who can be thrown behind or against a scenario. Various forms of conflict or collaboration (Newton, 2001) are likely to prevail between these two networks, based on the micro-politics of force. Existing studies only rarely acknowledge this pragmatic reality of diverse ontologies, but Börjeson et al (2006) provide a rare if depoliticised example in scenario research. They note that actors 'can be those who generate scenarios, those who use already existing scenarios and those to whom scenarios are directed, even though they may not have asked for them' (p. 725).

These two principal networked ontologies are combined in a pragmatic decision process with another group of people: those in a position to commission scenario planning exercises. Nestling among this diverse group of 'heterogeneous engineers' (Law, 1987) will be the scenarios themselves. Non-human they are, of course, but they can also be forceful, too, as their potential to disturb existing power relations underscores. Humans and non-humans, facilitators and scenario plans support or contradict each other. Hence, the descriptor for the ontologies in which they are enmeshed is a sociotechnical network (Haraway, 1996). In this networked world, all things may change, and instability is the norm. It follows that scenarios that do not change situations or are not themselves constantly reworked in new situations offer no pragmatic proof of life. The idle scenario ceases to exist (but only, it should be

noted, in the networked world). Any scenario that is used, moreover, will work in constantly changing situations. This implies, in turn, that its 'nature' (which is only ever relational) constantly changes, too.

These various actors who are enrolled within a scenario process will enjoy radically different scope for action, sometimes wide-ranging, at other times, narrow and local. Only some of the actors will be permitted to see and act upon anything like the whole network, while others will face potentially robust rules that prohibit them from venturing too far. Consultants whose contracts stipulate only limited involvement, for instance, will tend to focus only on their terms of reference and bound their actions on that basis. In such cases, a boundary is set and respected, based upon market and commercial criteria, contracts, rules and the like. In actor network theory, these criteria must have a degree of force, because networks are otherwise deemed to be open and acquisitive. That force for closure has an (albeit oblique because concatenated and convoluted) origin. This force factor has received little attention in previous research on scenario analysis. Force inheres in the pre-conditions for and disciplines surrounding scenario production.

The commercial power to instigate and enrol, the disciplines of those 'how-to' guides mentioned earlier, the degree of pre-existing hierarchical organisation and actor deference, or monopolisation of wisdom will all exert force in the scenario process. This force is practically imposed through both people (for example, the scenario process facilitator and discursive norms) and non-human things (the specialist planning software often used). Force is also exerted in the use to which scenarios are put. This force is located in the sanctioning or persuasive powers of the enrolled network of actors - in their ability to stop or start action sequences. Re-injecting these diverse sources of force into scenarios accounts then permits

different – and multiple - fates to be explored.

The Fate of Scenarios

It is the purpose of this section to reflect on these different fates. Assume that a situation produces three scenarios, labelled here A, B and C. These have been fabricated through a debate about the collision of opposing plausible uncertainties, as the IL method would suggest it ought. Assume further that each of them meets a quite different, if stylised, fate. Of these fates, only scenario A may be used in the design, sanctioned, enforced or prefigured mode (which itself indicates intent on some network's terms), while B and C languish, though they do so in different ways. These diverging fates are captured in Figure 1 below.

(Take in Figure 1 here)

Scenario A is the designated favourite and force is applied to support it. It is used as intended and in a pragmatic way in the network whose actions are being organised (as s subordinated actor) through the scenario planning process. This subordinate network is termed the network to be planned in Figure 1, to reflect the force being exerted on it. Scenario A is fashioned in such a way as to enable it to be drawn into that network. This fashioning is complex, involving the engineering of an often long chain of associations, together with a carefully chosen appeal designed to resonate or align with the needs of specific individuals within the subordinate network. Its specific appeal will then usually combine elements of pragmatist and non-pragmatist fashioning. Fashioning is likely, therefore, to be at least partly cathectic (Parsons, 1951; Rose, 1958) and multi-disciplinary, going beyond solely pragmatism. When

it changes subordinates' condition or trajectory, it functions as an actor (Law, 1986) and acquires that needed force. In this reading, the network to be planned differs, maybe markedly, from the design or planning network.

This separation of planners from the planned accords with a number of observations and asides to be found in the current research and it adds further ontologies to the network cast of characters outlined above. There is the in-house, 'back-office' think-tank planning model identified by Börjeson et al (2006), for instance, or the (again within-house) dedicated practitioners who 'help top management' in designing futured plans (Walton, 2008). In all cases, the scenarios that are mobilised 'should be of use to someone', as Börjeson et al (2006, p. 738) rightly note: they must never stand alone in the relational world. In a hierarchical organising system, the network to be planned is 'manipulated by managers' (Hodgkinson and Healey, 2008) and it is these actors exerting force who lead the dominant planning network in its scenario planning intervention. The current analysis suggests more about the involved networks, too. The dominant planning network tends rapidly to recede into invisibility – though its intentions may be a matter for continuing speculation. What is more, the differences between these two networks must be maintained, for otherwise, the scenario analysis process loses its locus of action. This distinction between the dominant planning network and the network to be planned is a crucial ontological implication of network pragmatism, but it has received little sustained discussion in current research.

As scenario A is framed, developed and operates on the network to be planned, it changes constantly and reflexively. It works as a translational object, moving some actors' desired or imagined future into a present, pragmatic reality. More precisely, an effective scenario has the capacity to translate emotions into action. Yet, through this social psychological work,

actors attribute and typically anthropomorphise the scenario. The scenario's networked existence changes in consequence. Scenario A is also inserted into a turbulent world and the translational effects of successive encounters with that world undoubtedly continue to change the scenario itself. In this complex interaction, the scenario functions as a change agent, but it is also changed as a result.

Turning now to Scenario B in Figure 1, it too was generated from within the interplay between the planning and planned networks. It is not, though, officially sanctioned (that is, this scenario was rejected in the judgment and ensuing actions of the dominant planning network). Nonetheless, it is also not killed off entirely by non-use. It lives on somehow – potentially, by being passed on to a dark, hidden or oppositional network and conserved there (Hansen and Mouritsen, 1999). Within that oppositional network, which will only partially overlap with the network to be planned, it is secreted and hoarded, or nested, as a part of that network's anti-program (Latour, 1992). It then functions as a latent object, invisible in its acts to the dominant network in the organisation but still resonating across dominated and probably *ex officio* relations. This reading underscores the contention that scenarios that do not play a major role in shaping a client's (an other's) actions may yet remain available, providing that a distinction between official and unofficial accounts is observed. Scenario C is not used in the practices of any network. It is thus a lost object (Underwood, 1936) to the pragmatic world. No action is based upon it and it causes no actions to happen – in that world. As it falls out of network use, it dies, but it must be repeated: only in the pragmatic world. Its processes of production and its stories still retain a remanent (weakly constructivist) effect, but this weak constructivist effect is non-relational. Scenario C becomes a primarily cognitive and affective object. Some individuals still cherish its messages and remember its contentions with warmth.

In Figure 1, scenarios are produced at the collision of two extant networks. These are the dominant planning network setting the policy agenda; and the subordinate network to be planned. Scenarios A and B are used pragmatically and judged for their worth in a pragmatic calculus. An obvious question here might be: what actions are furthered through these scenarios? Scenario C transgresses neat paradigmatic lines, because it passes through the boundary of a pragmatic world. If it is to survive this move, scenario C must again function as a cathectic object. It must be capable of commanding emotional loyalty among some of the networked individuals, acting as a source of temptation for those receptive to its story. If this works, the scenario weakens these agents' allegiance to their existing networks. They may then become only partially enrolled and capable of duplicity, because they are secretly attracted to an alternative scenario. Their maverick affections may keep scenario C alive for long enough that it can re-enter the pragmatic world if broader ontologies change. Pending that return, the otherwise dead scenario C may leave traces of deals done and accords struck in the history of the actions triggered in the scenario planning process.

Under what circumstances might scenario C come back to life? It is assumed that the intrinsic epistemic worth of what that scenario contains does not change in itself. It is not, in short, rewritten. Assume instead that the distribution of forces surrounding the two networks change, casting doubt on the dominant network's ability to mandate action. In consequence, either the scope for action of those mavericks harbouring scenario C increases, or their justification for acting increases. Either way and suitably emboldened, they take the step of testing out scenario C-related alternative organising with others. If they are successful, a new network begins to form and scenario C is helped back into the pragmatic world. This process

of rehabilitation will be based on the practices of pragmatic encroachment (Fantl and McGrath, 2002; Stanley, 2005). These revalue an individual's otherwise constant base of knowledge because that knowledge will work differently in changing situations. These changes redefine what is known and the changed balance of situation and knowledge that results is incorporated into new judgments and ultimately, action. Rehabilitation of scenario C is at hand.

A Missing Ontology – the Set of all Scenarios

The three individual scenarios discussed above and their close relation with practice is based on the assumption that each is independent of the others. Any one of them can thus engage in divergent development and reach a differing endpoint. There are strong arguments in the research literature to the effect that such divergent development is unwanted. To prevent this, researchers assert that scenarios should be viewed not as individuals, but as interconnected strands of an epistemological whole. This development in scenario thinking is termed multiple scenario analysis, or MSA (Schwartz, 1998; van der Heijden et al., 2002; van der Heijden, 2005). The intention of the second generation (Wack, 1985) scenarios that populate an MSA is to add new functions to traditional accounts. Among these new functions is an enhanced scope for learning and a corresponding increased likelihood of changing participants' views. This emphasis reflects the cognitive domination of IL research. Working together, inseparable from birth, the integrated MSA approach presumes that all the scenarios are equally plausible, with no formal frontrunner. In this reading, an MSA constructs one composite object of thought so as to increase the force acting on the ontologies (Bood and Postma, 1997).

There are both theoretical and practical issues in the MSA position when it is viewed from a pragmatist perspective. Theoretically, MSA research does not specify the nature of the force that keeps these scenarios together and able to act as one united entity. With its primarily cognitive emphasis and its concern with the debiasing of élite beliefs, it is communication and persuasion that are its central concerns. The second issue is ontological. What is the nature of this MSA considered as an object, what specific social and technical opportunities do MSA approaches open up that would not otherwise be available to organising through a group of individual scenarios like A, B and C above? Are there sociotechnical affordances (Turvey, 1992) that are specific to the MSA? Beyond these theoretical issues, there are practice factors, too. Practice tends to reinstate a favoured scenario and consign others to a dormant status. It splits the bonds holding the scenarios together and reinstates their separateness: how? While a scenario planning exercise involves cognitive reflection on multiple plausibilities, only one of these scenarios is actually written down and codified. Without codification, alternatives are often lost (a testament to the force of the acts of inscribing). Then again, even the discussion of alternative scenarios may be casual at best, options being mentioned only in passing and lightly dismissed. These observations relate mainly to how scenarios are produced and the many lapses that occur in that production process. There are equal problems in how MSA-type scenarios are supposed to be used. Conventional scenario research argues that their point is to facilitate a strategic conversation (van der Heijden, 2005). In this view, reflection on plausible multiple futures reshapes perspectives on the present (Schwartz, 1998). Inequality in discursive resource is not so lightly dismissed, though. Who and what defines plausibility, admissibility or a legitimate perspective? In practice, we observe the continuing weight of the dominant planning network. It is not dismantled in pursuit of an MSA conversation, even if it chooses to recede behind

rhetorical commitments to fair speech situations.

It is our assertion that network pragmatism can go significantly beyond the perspectives offered by the MSA account. To achieve this, though, some new assumptions are required. First, a network of production would need to pursue the construction of a new object beyond the individual scenarios themselves. A key question here is whether this new network exists over and above the individual generative networks, or whether it supersedes them. Second, the authors of a group of linked MSA scenarios need to be named and their changing ontologies traced. The unnamed authors must also, it should be noted, produce the surrounding relations that can sustain a MSA through the turbulences of organisational life - another absent ontology in conventional readings. The naming of the MSA production apparatus network is a relatively straightforward matter, given the unanimity that surrounds this matter in the current research. Schwartz (1998) is typical when he terms the MSA object in itself as a 'set' of scenarios. By modest extension, the ontology and relations that dedicate themselves to the prosperity and furthering of an MSA cognitive entity are here termed the Set of all Scenarios, or 'SoaS' network. The SoaS network takes its place in the pragmatist's ontological taxonomy of scenario actors alongside or stands instead of the dominant planning network and the network to be planned, depending on the pragmatist tactics to be pursued.

Having so named it, we now provide a few reflections on the SoaS and its organising prospects. The SoaS network would need to be endowed with some special powers if it is to prevail in its insistence on a fused set of scenarios. It would need to be able to recruit people and things to its specific reading of the actions needed. The strength of these would be determined, in an actor network reading, by the diversity and numbers of those enrolled and the degree of diversity of those so enrolled (a measure of the network's capacity to engage in

heterogeneous engineering). The SoaS network also needs to try to become a part of a natural order, so that practice always uses its terms. To this end, the standard operating procedures would need to be inscribed with its messages and ways of doing things in order to make this network and its use an absolute necessity in daily work. Its intention would be to become an obligatory passage point (Callon, 1986), in actor network terms.

Is this tactic of enrolling more and heterogeneous actors and subordinating them to the SoaS likely to prove advantageous and give its work an edge over conventional approaches to scenario production and use? It is clear that an SoaS approach will need to produce each scenario (with a chain of dependencies for each), plus a dedicated chain of those seeking to hold them together so that they continue to act as one. An SoaS approach therefore needs, in pragmatist terms, a longer chain. This is a central assumption in the pragmatist interpretation of an MSA that includes its generative relations. There is nothing to indicate in the research into MSAs that they require the retirement of individuated scenarios or the disenrollment of their advocates. Latour is convinced that such a longer chain of (concatenated, joined-up) allies will tend to have a greater force to act than shorter ones. There are analogous lines of reasoning in other disciplines that support such a reading, too. In strategic management, longer and more complex combinations of assorted things (resource 'configurations', as Eisenhardt and Martin, 2000, term them) are difficult for others to imitate. The configurations embody experience curve effects and may then act as a source of competitive strength, providing a stream of rent to their owners (Castanias and Helfat, 2001). Again, bigger and more complex alliances are thought to have greater force. If an MSA is augmented to include its generative social and technical relations so that it becomes an SoaS network, then the dynamics and force of the longer chain needed to sustain it becomes critical.

Yet, there are equally compelling arguments working in favour of shorter chains. The 'rules' of lean production favour short and direct connections between things (Spear and Bowen, 1999), with no looping and minimised ambiguity resulting. Short concatenations are this time stronger. Similar contentions are to be found in the work of accountability theorists agitating for greater transparency (and again, less ambiguity) through traceability (Durant and Legge, 2006). The SoaS tactic of extending concatenations is therefore controversial. It is only when extension is combined with an allied process of fusing entities into more complex wholes that these arguments for force from foreshortening come to the fore. In this argument, an effective SoaS must ultimately blackbox and thus shorten its complex things, working as a do-not-question punctuation (Law, 1999). There are, though, many remaining questions about this process: when it is best done in a complex and emergent process over time, or whether moral appeals, non-relativistic rules or principles of right conduct can be systematically used as a part of its closure processes. There is, moreover, the role of likely outsiders to consider – specialist scenario planners, environmental scanning personnel. Under what circumstances might they and their tools be able to effect the needed closure of a philosophically open pragmatist network? Notwithstanding these questions, it is the network pragmatist emphasis on the ontological (not just epistemological) distinctiveness of an SoaS that is, in our view, significant. An MSA approach is right to recognise the role of a fused multiple in scenario planning, but its singular insistence on cognition is both incomplete and unhelpful. Whatever the open research questions on its concatenated chains of support (and they are many), the requirement to view scenarios alongside of their chain-like means of production is surely important and commendable.

Discussion

It is now appropriate to reflect more widely on where the various contentions put in this Article take scenario planning and implementation. The theoretical understanding of scenario analysis remains in a relatively underdeveloped state, as Chermack and Walton (2006) *inter alia* have noted. Following Heidegger (1978), one may think of this description of the present situation as an ontological chaos of scenario production and an erratic scattering of effects. In many ways, this suggests that practice has extended some distance beyond the capacity of researchers to understand the full implications of what is going on. Making progress beyond this chaos requires scenario analysis to reflect on itself and its own claims, as Wilkinson (2009) has noted. This task is hampered by the fact that research into scenario planning is itself multi-disciplinary and often ill-disciplined. This eclecticism explains why even the most systematic of overviews (Tapio and Hietenan, 2002) cannot cut the number of philosophical paradigms at work here below the dismayingly large total of seven epistemologies.

The application of network pragmatism adds another paradigm to this long-list, but it also offers two clear benefits over the IL orthodoxy. First, it provides a theoretically grounded explanation for the different and parallel fates charted by numerous scenario perspectives as they vie to persuade and force heterogeneous actors down particular roads. It also spells out the terms of a scenario's proof of life. A pragmatically alive scenario would need to be able successfully to enrol others to its cause and network. This view qualifies the communicative or persuasive accounts that are currently favoured. It is not then the calculation of degrees of uncertainty of specific scenarios (Molitor, 2009, for example) or a judgment on the possible and preferable, as with Mannermaa (1991) that matters. It is rather the scenario's worth as an alliancing partner that ultimately determines whether a scenario expands or contracts its influence.

Our second claim is to have called proper attention to the issue of how scenarios die in the pragmatic world, but can then revivify after a journey that has taken them elsewhere, in philosophical terms. No scenario is immortal, though some seem compellingly resistant to death once they are inscribed on paper. The different and often counter-intuitive courses charted by individual scenarios are not best explained by the innate qualities of the scenarios themselves, but rather by the network lives in which each scenario grows and dies. Conventionally, it is the closeness to, or alignment with intended actions that makes a scenario (im-)potent (Bell, 1993). Conversely, in network pragmatism, the issue is how well that scenario enmeshes with and supports the ongoing actions of differing organising networks - be they officially endorsed or dark, shadowy, nested or anti-programmatic. If it is persuasive, a scenario enrols and its network becomes stronger as a result. Only when a scenario does this can it function as one of Bell's (1993) posits – because the remade practical world and the object that is the scenario form a more unified bond. This is a reversal in the causal flow of cognitively based approaches.

Third, the network pragmatist argument provides another perspective on the process of compression of multiple scenarios discussed by advocates of a MSA approach. Wilkinson (2009) makes the point that a single future based on forecasting is ontologically and epistemologically distinct from the multiple futures that scenario analysis should encourage. She is critical of the move. The SoaS would, like the MSA, compress multiple accounts into an integrated unity, but it also draws a distinct organising system in with that compressed unity. As such, it does two further things. It critically examines whether such a collapse of the multiple to the singular makes sense in the first place. Are the new chains of alliances resulting from the invention of the SoaS and involving a heterogeneous mix of ontologies, likely to generate greater force? As noted above, there are contradictory views on this. It also

highlights the great importance of effectively sealing the scenario blackbox, making its use an everyday necessity and normalising it through supportive rules and regulations. This appears to be the move favoured by many leading practitioners of scenario work, as they set up dedicated units for scenario monitoring purposes and insist that their business units remain aligned to their scenario assumptions, Actor network theory has consistently argued that holding things together and in mutually supportive relations is a formidable project. Keeping the blackbox closed is extremely difficult in practice. Advocates of an MSA approach tend to minimise this problem by limiting the alignment challenge to matters of epistemology. Even conceived in such restricted terms though, advocates of the MSA approach need to be mindful of this caution.

The MSA move is also potentially problematical in normative terms, since it raises the ideological stakes and makes dissenting or counter-narratives much harder to sustain. The competing rationalities that underpin conventional scenario accounts allow for people to form cognitive ties with even subordinate views on the future – at least in principle. In reality, as Warth et al (2013) note, there is often a strong tendency to treat all dissent as diverging rationalist beliefs to be identified and eradicated. Whether the scenarios are fused as an MSA or left as competing accounts, then, a purely cognitive emphasis leaves only a narrow base on which competing thought may be founded. Pragmatist scenarios like A, B and C above are sensitive to the variegated practices of dissent. They acknowledge the high likelihood of networks translating the cognitive into the affective or pragmatic. A network pragmatist account asserts, though, that dissent goes beyond competing rationalities to encompass a normative right to (dis-)organise. The SoaS network contradicts this normative principle even more comprehensively than the rationalist MSA, at least for so long as it can keep the

blackbox sealed and alternative practices prohibited. This is because it constricts not just thought but a wider set of practices.

Fourth, the current argument supports those advocating multiplicity as a democratic principle in scenario organising. We insist that individual scenarios can be subjected to official non-use and still do good work. Both O'Brien (2004) and Tapinos (2012) argue that all scenarios are used in the development of enterprise strategy and non-use is ruled out by definition. They all count. Our position is rather different, though, because it contends that scenarios create value *beyond* the strategic process itself. We argue that the enterprise should not aspire to be a total institution (Shenkar, 1996) and that scenarios do much of their best work in those networks that strategy does not totalise. Both ontological politics and individual sentiment must retain their right to exist in scenarios that act in those political and individual spaces.

Fifth, it would be misleading to argue that network pragmatism is only (for it can be) a cold and calculating realm. Force can be equally applied for good or evil ends, while the visioning that Masini's (1993) scenario typology suggests continues to have its place. This can be rethought in network pragmatist terms, so that a visionary scenario is one that can construct a visionary *object*. Such objects permit different networks to find ways of talking to each other and act on themselves and each other without inflicting a uniform interpretation on a larger body of organising. Briers and Chua (2001), who originally coined the phrase, visionary objects, describe them as 'conceptual objects that… can evoke similar emotive and affective responses from a wide spectrum of people, possessing a sacred quality that makes it difficult for a "rational" person to be against them' (p. 242).

In this light, scenarios A and B can only be considered to be partially successful visionary

objects, because they fail to stimulate appropriately wide-ranging emotional responses. Scenario C presents the face of an aspiring object-under-construction as soon as it prepares itself to perform back in the pragmatic world. Its cathectic appeals are those of an anti-plan (Tryggestad, 2005) that is yoked into an anti-programme of action. Neither, therefore, does it suffice in the role of a visionary object. Further work will be required to detail the terms under which visionary scenario objects can be constructed. There is nothing in the pragmatist account that blocks visioning and aspiration for the not-yet-done.

Finally, we acknowledge that scenarios can destroy, as well as create in their travelling around the organisation. Scenarios can undo existing network relations within the organisation (Bechky, 2003). They can equally become themselves matters of controversy (Pinch and Bijker, 1984), destabilising actors. Some of the effects may be gradual, but others may happen precipitately. We have not had the opportunity to explore the means through which such potentially negative effects might be countered. The deontological packages of 'acceptable rules of social discourse' discussed in Tapio and Hietenan (2002) provide one (albeit anthropocentric) means for countering such negative processes. Under what terms can such rules be extended to non-human conduct – indeed, to the scenarios themselves and to a design for them that minimises the probabilities of destructive effects? It seems to us that a pragmatist experiment such as this that generates large questions is also one with much to commend it.

Conclusion

It is a quite widely shared concern that much existing research into scenario-generating processes is both under-theorised and partial. We have sought, using a broadly pragmatism

approach, to respond to this concern. Our approach has re-theorised in network terms the slender strands of pragmatist reasoning in the scenario planning research of, among others, Tapio and Hietanen (2002) and Walton (2008). As the argument has proceeded, though, a plethora of often long-established object relations have become relevant and these relations transgress, in turn, the core pragmatic precepts of actor network theory. As scenarios go to work, they generate cachexia and affect, latency conditions and qualified support to anti-plans, among a host of such detail. This suggests that the pragmatic world of scenarios is often likely to surprise – and it is equally likely to prove unruly, in disciplinary terms. A persuasive account of scenarios must, we contend, first respect their complex ontological reality if it is, to use a long-established materialist methodological precept, to 'follow the object' that is the scenario. This pursuit of the scenario presents some potentially difficult academic challenges in consequence. It can often mean, for example, that received distinctions between cognition, behaviouralism and emotion are blurred. The undoubted need to 'respect' (Wilkinson, 2009) the differing analytical traditions at work here can then be tested.

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Figure 1 – Scenario Planning and its Fates